PEOPLE FOR PUGET SOUND
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March 17, 2005

The Honorable Greg Nickels
Mayor
City of Seattle
P.O. Box 94749
Seattle, WA 98124-4749

Diane Sugimura
Director
Department of Planning and Development
City of Seattle
P.O. Box 34019
Seattle, WA 98124-4019

RE: Department of Planning and Development Proposed Environmentally Critical Areas Code Amendments to SMC 25.09

Dear Mayor Nickels and Ms. Sugimura,

The development of the Seattle *Environmental Critical Areas Draft Proposed Code* and associated documents has been a major undertaking by city staff and we greatly appreciate the hard work, good public outreach and strong scientific and technical approach that has been undertaken by city staff, especially Miles Mayhew and Maggie Glowacki. Also, the language and public documents are well written and concepts are clearly explained.

People for Puget Sound is a nonprofit, citizens' organization whose mission is to protect and restore Puget Sound and the Northwest Straits, including a specific goal to protect and restore the 2,000 miles of Puget Sound shoreline by 2015. We focus on water quality and habitat, advocating that the State of Washington and its counties and cities devote more resources to the prevention of further degradation of the Sound.

A strong Critical Areas Ordinance ultimately adopted by the City will help protect the health, property and environment of Seattle. Land use policy and regulations such as those proposed directly impact the health of Puget Sound. Reductions in vegetation, increased urban runoff from streets and parking lots, and improper development in critical buffer zones of riparian and shoreline areas negatively impact the fragile Puget Sound nearshore ecosystem.

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We applaud the city for incorporating the following items in the proposed code:

- The habitats designated as Fish and Wildlife Conservation Areas in SMC 25.09.020(D)
- Incentives for daylighting streams
- Protection of WA Department of Fish and Wildlife priority species

Our specific comments follow:

1. **Exclusion of protection of Type 1 waters ("shorelines of the state") WAC 222-16-031 defined areas.** People For Puget Sound's primary concern is that the proposed code does not include buffers for saltwater shorelines (Type 1 waters) in Seattle. The sandy beaches, rocky shores, eelgrass and kelp beds, salt marshes, and intertidal mudflats that make up Seattle's marine shorelines provide critical habitat for important species, including sea and shorebirds, herring, salmon, and shellfish. These species form the basis of the food web that supports the abundance of life found in the Sound, including harbor seals and orca whales.

   Unfortunately, throughout Puget Sound, critical marine habitats are quickly disappearing due to bulkheads, piers, docks, and other structures. Throughout Puget Sound, 75% of salt marsh habitat is gone and polluted runoff sends millions of gallons of toxic chemicals, like mercury and petroleum compounds, into the Sound.

   Although the ecological value of the nearshore environment and the need for protection are acknowledged in the City's *draft Best Available Science Review* (page 31 ff.), the city is excluding protection of the marine shoreline through buffers from the code at this time. The nearshore zone is critical habitat for juvenile salmon and other species and therefore the habitat and water quality of this area must be protected by buffers as required by the Growth Management Act.

   Marine shorelines provide economic value as well. In a 2004 Ecological Economic Evaluation study of Maury Island by King County[1], "high value" habitats were found to include beaches that are located near dwellings, beach habitats, and freshwater wetlands. Moderate value habitats include coastal riparian and nearshore habitat. Economic values for each land cover were estimated based on ecosystem services such as climate and atmospheric regulation, water regulation and supply, habitat refugium, recreation, aesthetic and amenity, waste assimilation, soil retention and formation, food and raw materials, nutrient regulation, and disturbance prevention. The authors report that the assigned values are underestimates because inadequate data are available at this time to make a complete assessment. The ecological economic value of the marine shoreline, and other areas, can no longer be ignored.

   City staff has indicated that marine shoreline buffers will be provided in the city's shoreline master program in 2009. This is not adequate to protect Puget Sound. Further, until the Department of Ecology approves a new shoreline master plan, critical areas must be protected through a Growth Management Act critical areas regulation (RCW 36.70A.480(3)(b)). ***Type 1 waters including Elliott Bay and the nearshore of Puget Sound, as well as the tidal zone of the Duwamish, must be protected using buffers***.

[1] King County, Water and Resources Division. 2004 (June). Ecological Economic Evaluation Maury Island, King County, Washington. Prepared by: Herrera Environmental Consultants, Inc., Northern Economics Inc., and Spatial Informatics Group, LLC.

Supporting Scientific Research and Data

Marine riparian areas are a component of the Puget Sound nearshore ecosystem and the scientific evidence that supports protection for marine riparian areas is compelling. We have included with this letter a compilation of scientific sources and briefly review some of these sources in the following comments:

Pentilla (2001)[2] demonstrates the marine riparian corridor has a positive effect on the survival of surf smelt spawn incubating in sand-gravel beaches in the upper intertidal zone during the summer months in the Puget Sound Basin.

Marine riparian vegetation has significant habitat value. Marine riparian trees provide perching and nesting habitat for many species of wildlife, including bald eagles, osprey, and other raptors and birds. In their review of the 331 wildlife species known to inhabit all of King County, Brennan and Culverwell (in review)[3] identify 252 wildlife species (9 amphibians; 5 reptiles; 193 birds; 45 mammals) known or expected to have an association with riparian habitat on marine shorelines in Puget Sound.

Desbonnet et al (1994)[4] explains the benefits of vegetated buffers including pollutant removal, habitat protection, and erosion control. This research stresses the importance of vegetated buffers in maintaining balance between coastal resource protection and development.

In addition, Brennan et al (2004)[5] highlight prey production as an important function of marine riparian areas and vegetated backshore and is therefore very relevant to any discussion regarding marine shoreline buffers.

While the estuarine and coastal functions of wood have not been effectively documented and further research is needed to evaluate its habitat functions in coastal and estuarine ecosystems, the available literature clearly supports retention of marine riparian vegetation for the maintenance/creation of structural complexity along the marine shoreline.

Maser et al (1988) [6] states that "Coarse woody debris is an important part of estuarine and oceanic habitats, from upper tidewater tidewater of coastal rivers to the open ocean surface and the deep sea floor" and that "the lower river and estuary banks (riparian corridors) probably were the most common sources of the largest driftwood in the bays."

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[2] Pentilla, D.E. 2001. Effects of shading upland vegetation on egg survival for summer-spawning surf smelt, Hypomesus, on upper intertidal beaches in Northern Puget Sound. In: Proceedings of Puget Sound Research, 2001 Conference. Puget Sound Action Team, Olympia, WA.

[3] Brennan, J.S. and Hilary Culverwell. 2004. *Marine Riparian: An assessment of riparian functions in marine ecosystems*. Washington Sea Grant Program. University of Washington. Seattle. Available at http://www.wsg.washington.edu/research/ecohealth/brenner.pdf

[4] Desbonnet, Alan et al. 1994. Development of Coastal Vegetated Buffer Programs. Coastal Management, Volume 23, pp 91-109.

[5] Brennan, J.S. et al. 2004. Juvenile Salmon Composition, Timing, Distribution and Diet in Marine Nearshore Waters of Central Puget Sound in 2001-2002. King County Department of Natural Resources and Parks, Seattle, WA. Available at: http://dnr.metrokc.gov/wlr/watersheds/puget/nearshore/juvenile-salmonid-report.htm

6 Maser, C., R. F. Tarrant, J. M. Trappe, and J. F. Franklin, technical editors. 1988. From the forest to the sea: a story of fallen trees. USDA Forest Service, Pacific Northwest Research Station, General Technical Report PNW-GTR-229, Portland, Oregon. Available at http://www.fs.fed.us/pnw/pubs/gtr229.htm

Simenstad et al (2003)[7] state that "[I]n most estuaries and along coasts, wood is a dynamic source of organic matter, substrate, and disturbance" and concludes that "[m]anagers can help preserve [wood] sources by limiting the direct removal of local wood wherever possible and by preventing the clearing and harvesting of relocated, stranded wood from riparian, nearshore, estuarine and coastal areas." The authors list the inferred and documented functions of wood in estuarine and ocean ecosystems as:

- releases organic carbon;
- harbors nitrogen-fixers;
- provides substrate for micro algae and macro invertebrates;
- controls the movement of matter;
- dissipates the energy of flow regimes;
- provides habitat for fish and invertebrates;
- provides cover habitat for fish and invertebrates;
- influences channel morphology;
- creates hydraulic diversity that influences productivity;
- serves as an interface linking terrestrial and aquatic systems;
- influences water column structure and complexity;
- serves as a source of disturbance that influences plant communities; and
- provides wood directly consumed by invertebrates, fungi, and bacteria.

The authors conclude that "[d]espite the lack of past studies, sufficient evidence exists of the importance of estuarine wood and its historical prevalence in northwestern North America estuaries to recommend interim protection and prevent additional irreversible losses." (emphasis added)[8]

Based on the above review, marine riparian areas, like their freshwater counterparts, provide vital functions for maintaining nearshore habitat, i.e. stabilize banks and control sediment inputs from surface erosion; filter pollutants and help to regulate freshwater delivery to marine environments; contribute large and small organic matter important for habitat structure and marine food chains (including terrestrial insects important to juvenile salmon); and provide shade to intertidal beaches important for forage fish spawning.

2. **More Protective Language in Shorelines District Section.** The language in SMC 25.09.200B needs to be strengthened to be more directive. Specifically we strongly suggest the following changes:
    a. ***Section b.*** "All development shall keep any increases in surface runoff to a minimum, and control, treat and release surface water runoff so that receiving water quality and any shore properties and features are not adversely affected." should be strengthened to: "All development shall be constructed in such a way as to have no net runoff from the parcel or surface water runoff must be controlled, treated and released so that receiving water quality and any shore properties and features are not adversely affected."
    b. ***Section c.*** "All development shall keep pavement to a minimum and use permeable surfacing, where practicable, to keep surface water accumulation and runoff to a

[7] Simenstad, Charles A., Alicia Wick, Stan Van De Wetering and Daniel L. Bottom. 2003. Dynamics and Ecological Functions of Wood in Estuarine and Coastal Marine Ecosystems. American Fisheries Society Symposium xx:xxx–xxx, 2003. American Fisheries Society.
[8] Ibid

minimum." should be strengthened to: "All development shall keep pavement to a minimum and use permeable surfacing, ~~where practicable~~, to keep surface water accumulation and runoff to a minimum. Redevelopment of a parcel shall keep the permeable area to less than 35% of the parcel, unless a significant water-dependent use warrants more impermeable surface."

c. ***Section d.*** "Best management practices shall be employed for the safe handling of fuels and toxic or hazardous materials to prevent them from entering the water." should be strengthened to: "Fuels and toxic or hazardous materials shall be handled in a manner that does not transmit them to adjacent water bodies. The direct runoff of such chemical-laden waters into adjacent water bodies is prohibited."
d. ***Section f.*** The best management practices should be listed for this section: "No over-water application of paint, preservative treatment, or other chemical compounds shall be permitted, except in accordance with best management practices."
e. ***Section m.*** "In- and over-water structures shall be designed and located to keep impacts from shading to a minimum." should be clarified to: "In- and over-water structures shall be designed and located to keep impacts from shading of the nearshore bank and shallow water habitat to a minimum."

3. **Wetland buffers.** The proposed code assumes that degraded wetlands are not of long-term significant value. Wetlands, even in degraded areas, provide valuable areas that can absorb stormwater flows and help cleanup stormwater quality. Further, narrow buffers for degraded wetlands discourages long-term efforts to restore those wetlands. We are making decisions today, by this code, which precludes future opportunities. If one were to use a similar argument for current degraded shorelines (i.e., bulkheaded) then there would be no hope of ever restoring our valuable salmon runs, for example. Degraded areas cannot be written off.

4. **Wetlands paved over**. It is not adequate for the protection of critical areas to allow exemptions of class IV wetlands that are less than 1000 square feet. This proposal essentially will allow for the paving over of these areas, eliminating valuable areas that can absorb stormwater flows and help cleanup stormwater quality, and potential restored wetlands. There is a national policy of no net wetland loss and this is not reflected in the proposed code. FutureWise has provided documentation to the city that supports the protection of all wetlands.

5. **Riparian buffers.** The City's *Best Available Science Review* document supports buffers that are wider than are proposed in the code amendments. Additional research is summarized in Washington State Department of Fish and Wildlife's *Management Recommendations for Washington's Priority Habitats: Riparian.* According to the scientific evidence, buffers should be 150-200 feet – and wider rather than narrower if in highly urbanized settings such as Seattle. As cited by the Washington Department of Fish and Wildlife to the Pierce County Council Community Development Committee, a buffer of 100 ft would still result in a continued loss of fish and wildlife habitat[9]. A more robust buffer of 150 ft. will help to ensure the requirements of WAC 365-195-925 (3) for the conservation and protection measures to preserve or enhance anadromous fisheries which states that the inclusion of " measures that protect habitat important for all life stages of anadromous fish, including, but not limited to, spawning and incubation, juvenile rearing and adult residence, juvenile migration downstream to the sea, and adult migration upstream to spawning areas" must be met. The WA State Community Trade and

[9] WA Department of Fish and Wildlife. 2004 (August 6). Letter from Steven A. Kalinowski, Habitat Program Manager Region Six, to The Honorable Calvin Goings, Chair, Community Development Committee, Pierce County Council, Regarding: Pierce County Draft Ordinance 18E "Directions for Protecting and Restoring Habitat."

Economic Development handbook outlines the basic needs for anadromous fish: unpolluted water, streams with woody debris, streambed gravels, and complex estuarine and nearshore habitats that support food production, migratory cover, and physiological transition between fresh and salt water. Local governments can meet these requirements by "ensuring riparian corridors and vegetation management along shorelines are preserved to help provide large woody debris, for structural diversity, lower water temperature, nutrient input, and shoreline stabilization".[10] Adequate buffer widths will help to ensure these critical functions of the shoreline are preserved.

6. **Dewatering during construction and during operation.** Dewatering of groundwater during construction, and in some cases during operation, of projects in upgradient areas near sensitive wetlands should be restricted. Groundwater flow is vital to the health of wetlands.

7. **Toxic chemicals in urban runoff and stormwater**. Provisions that require no runoff of pesticides, herbicides or chemical fertilizers only apply to fish and wildlife habitat conservation areas in the Shoreline District or to wetland buffers. This provision should apply to all buffers.

8. **Daylighting.** Small streams (subwatersheds less than 52 acres) should have incentives for daylighting. All creeks should have the incentives in place in order to restore biological function to more of the city's creeks. There is no adequate justification provided for the 52-acre limit.

9. **Incentives.** Overall, there should be more incentives and "successful project stories" to encourage landowners and developers to take a proactive step to protect critical areas. Highly degraded streams and shorelines in urbanized Seattle need to be restored, not just protected. If the proposed riparian buffers were wider, then there could be a restoration incentive program (as proposed by the Thornton Creek Alliance) tied to exclusions for some encroachment into the buffer zone. This would not be acceptable with the current narrow buffer proposal.

10. **Stronger language for development conditions.** We recommend that the language proposed in SMC 25.09.200(D) provides "that the Director may condition development on parcels containing wildlife habitat to encourage preserving contiguous fish or wildlife habitat corridors." be strengthened to "that the Director shall condition development on parcels containing wildlife habitat or their buffers to protect the functions and values contiguous fish or wildlife habitat corridors." The Growth Management Act in requires the protection of the functions and values of fish and wildlife habitats.

References to be included in the record (which are not included in the City's draft *Best Available Science Review*):

Brennan, J.S. and Hilary Culverwell. 2004. *Marine Riparian: An assessment of riparian functions in marine ecosystems*. Washington Sea Grant Program. University of Washington. Seattle. Available at http://www.wsg.washington.edu/research/ecohealth/brenner.pdf

Desbonnet, Alan et al. 1994. Development of Coastal Vegetated Buffer Programs. Coastal Management, Volume 23, pp 91-109.

[10] Washington State Department of Community, Trade, and Economic Development. 2003. Critical Areas Assistance Handbook: Protecting Critical Areas Within the Framework of the Washington Growth Management Act.

King County, Water and Resources Division. 2004 (June). *Ecological Economic Evaluation Maury Island, King County, Washington.* King County, Water and Resources Division. 2004 (June). *Ecological Economic Evaluation Maury Island, King County, Washington* Prepared by: Herrera Environmental Consultants, Inc., Northern Economics Inc., and Spatial Informatics Group, LLC. Prepared by: Herrera Environmental Consultants, Inc., Northern Economics Inc., and Spatial Informatics Group, LLC.

Pentilla, D.E. 2001. Effects of shading upland vegetation on egg survival for summer-spawning surf smelt, Hypomesus, on upper intertidal beaches in Northern Puget Sound. In: Proceedings of Puget Sound Research, 2001 Conference. Puget Sound Action Team, Olympia, WA.

Simenstad, Charles A., Alicia Wick, Stan Van De Wetering and Daniel L. Bottom. 2003. Dynamics and Ecological Functions of Wood in Estuarine and Coastal Marine Ecosystems. American Fisheries Society Symposium xx:xxx–xxx, 2003. American Fisheries Society.

Washington Department of Fish and Wildlife. 2004 (August 6). Letter from Steven A. Kalinowski, Habitat Program Manager Region Six, to The Honorable Calvin Goings, Chair, Community Development Committee, Pierce County Council, Regarding: Pierce County Draft Ordinance 18E "Directions for Protecting and Restoring Habitat."

Washington State Department of Community, Trade, and Economic Development. 2003. Critical Areas Assistance Handbook: Protecting Critical Areas Within the Framework of the Washington Growth Management Act. <CD>

We would welcome the opportunity to work with the staff to address the concerns we have outlined in this letter regarding the importance of strong marine shoreline protections as well as other issues. If you have any questions, please contact me or Heather Trim of my staff at (206) 382-7007.

Sincerely,

Kathy Fletcher
Executive Director

Cc:
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